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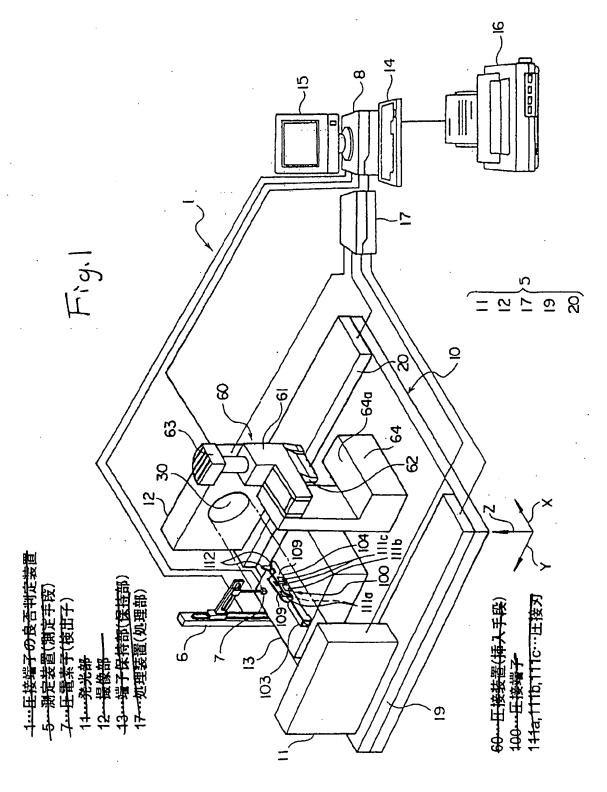
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12. 17

364979 (14. 12

國面

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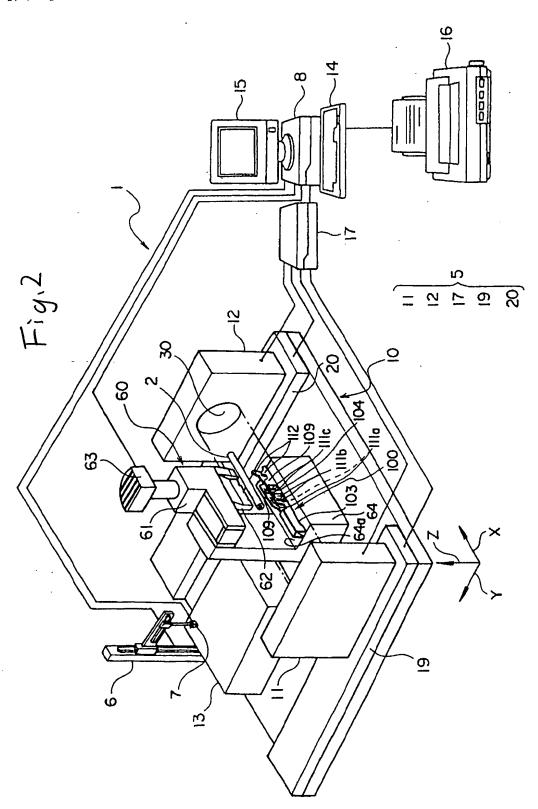
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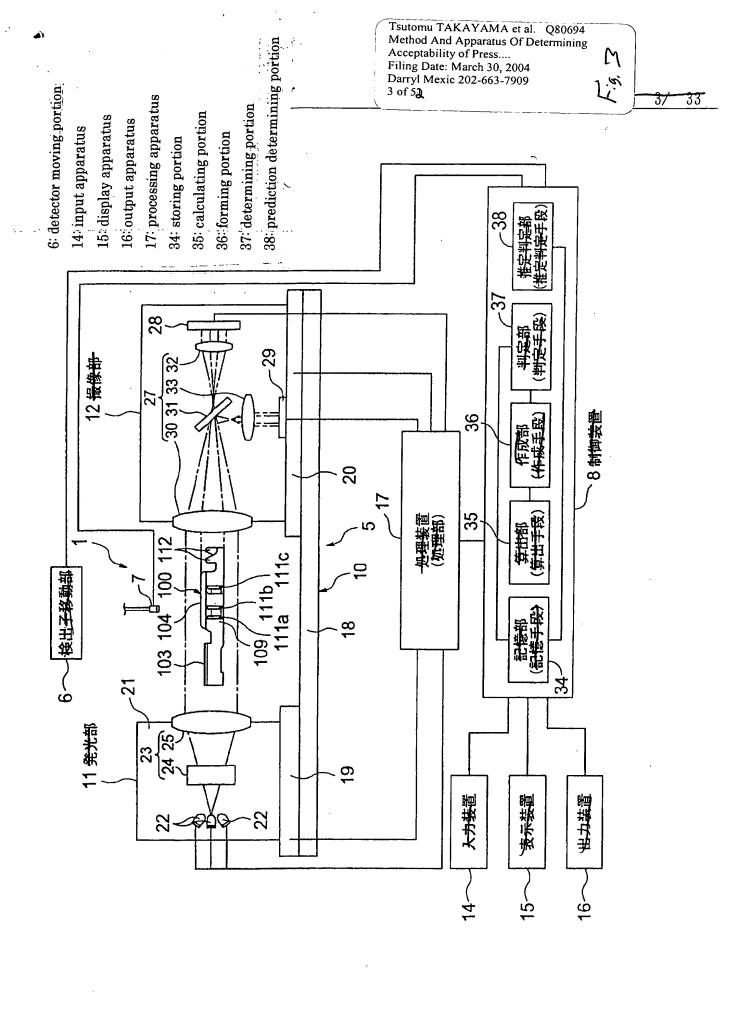
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77-14. 12. 17

【图2】

[書類名] 図面 [特許] 2002-364979 (14





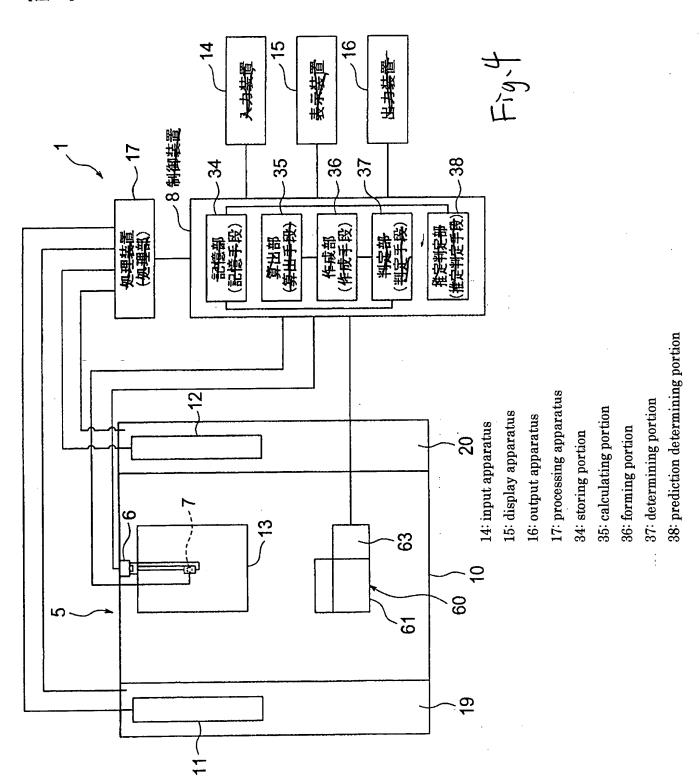
4. 12. 17

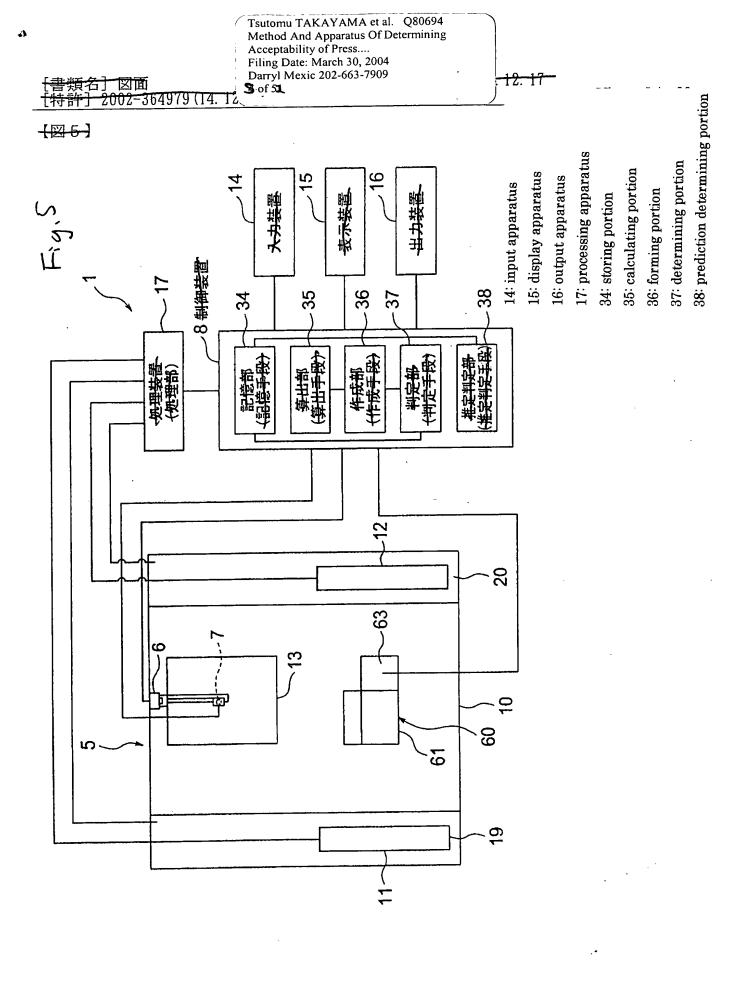
【図4】

]図面 2002-364979 (14.

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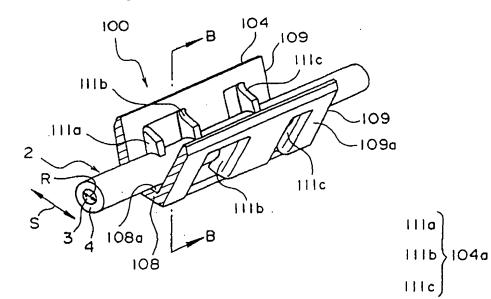
12. 17

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[図6] Fig. 6 104 3 109 100 109a Hc IIIa IIIa 1116 108á 108

1110 1116 > 1040 1110

Fig. 7



14. 12. 17

Fig.8

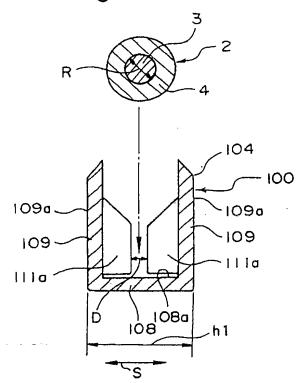
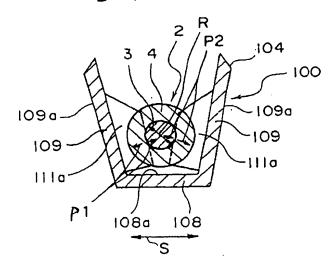


Fig.9

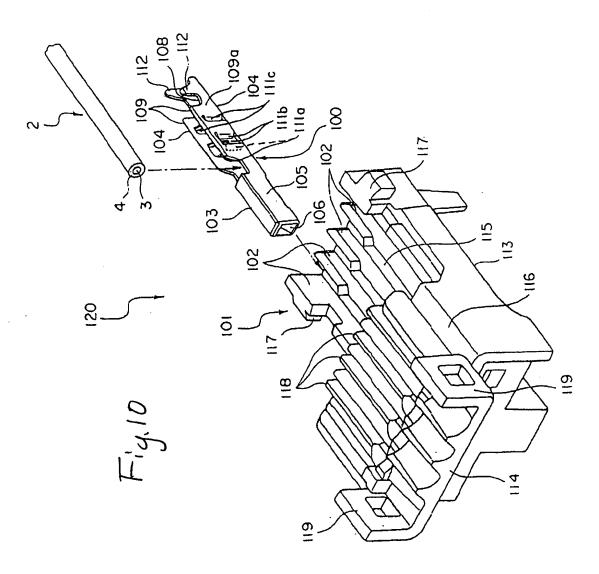


12.17

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【図10】





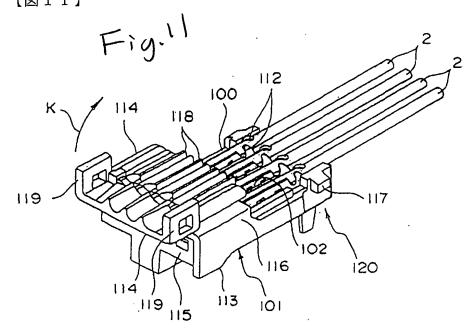
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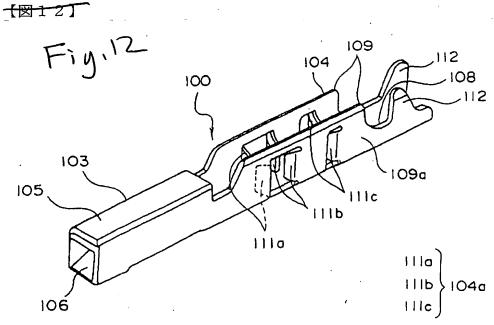
364979 (14, 12

2. 17

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图11)





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اه

axis of image pickup portion and acquire a distance between S1: coincide optical axis of light emitting portion with optical outer faces of pair of side walls before press contacting

start

S2: bring piezoelectric element close to press contact terminal and pickup image thereof

S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure S7: acquire (form) characteristic data by obtaining relationship S8: does difference between reference data and characteristic S6: is piezoelectric element inserted at predetermined position? displacement of press contact blades and calculate contact load between displacement of press contact blades and contact load data exceed predetermined value?

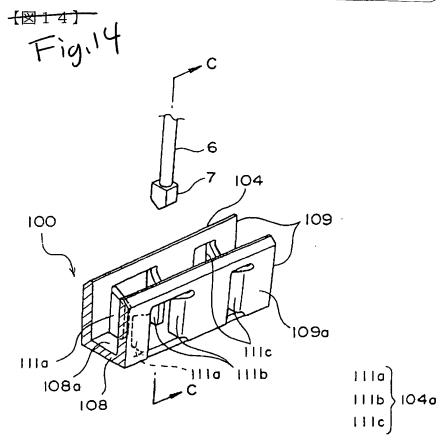
S10: defect

本 19 33 510 不良品と判定 ~S3 **SS** (S4 82 27 S z 発光部の光軸と機像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める 智報台)図庫 特許]2002-364979 (14:12-17) 98 88 89 側壁の外面間の距離を求め、 圧接刃の変位を測定すると ともに、接触荷重を算出する 圧接刃の変位と接触荷重 の関係を求めて特性デー タを取得(作成)する 基準データ と特性データの差が所定 の値以上か? 圧電素子を圧接端子に近 づけ、これらを撮像する 所定の 位置まで圧電素子を 挿入したか エッジを抽出する 良品と判定 2値化する <u>_</u> スタ では野

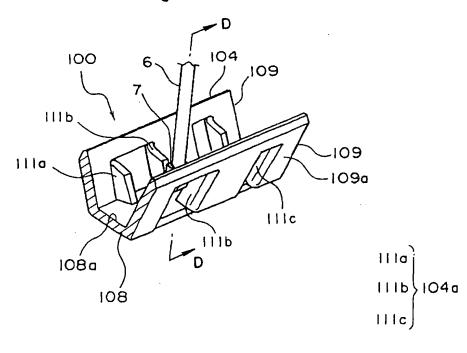
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-1815 Fig. 15

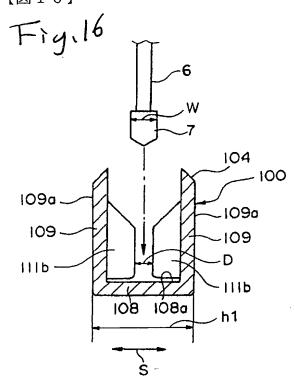


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14. 12. 17

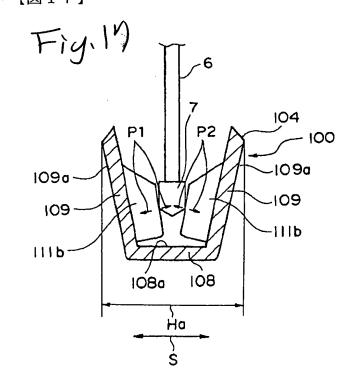
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」図面 2002-364979 (14.

【図17】



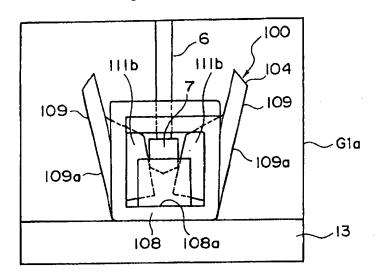
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【图18】

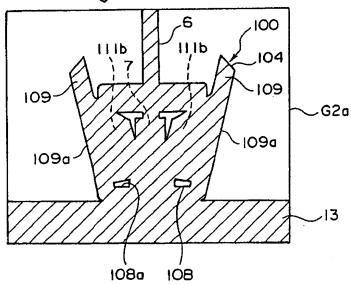
Fig.18

〕図面 2002-364979 (14.-12



【図19】

Fig. 19



12. 17

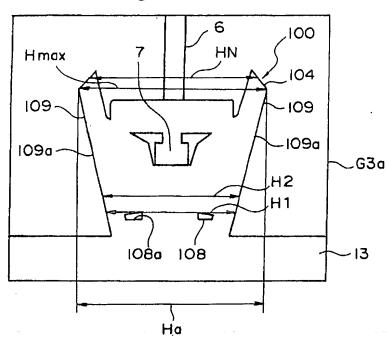
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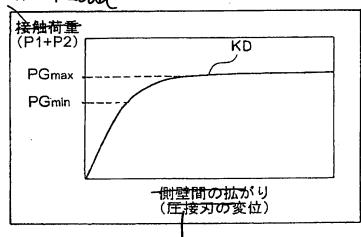
12. 17 -頁: 14/ 33

Fig. 20

[4寺許] 2002-364979 (14. 12.



18217 Fig. 21 Contact Load

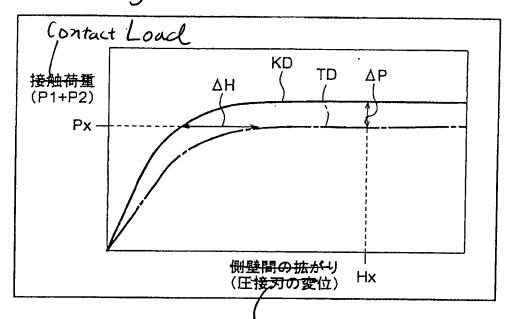


Expunsion Amount Between Side Walls (Displacement of Press Contact Bludes)

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122 Fig. 22



Expansion Amount Between Side Walls (Pisplacement of Press Contact Blades)

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不良品と判定

良品と判定

S18

S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S12: bring wire into press contact with press contact terminal and pickup image thereof S13: binarizing S14: extract edge S15: acquire distance between outer faces of side walls and measure displacement of press contact blades S16: predict contact load based on reference data and measured displacement of press contact blades S17: does predicted contact load fall within predetermined range? S18: good

S19: defect

~S16

基準データと測定した圧 接刃の変位とに基づいて、 接触荷重を推定する ,S17

推定した 接触荷置が所定の範囲内に 入っているか

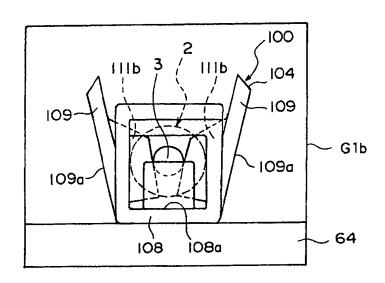
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書類名〕図面 特許] 2002-364979 (14.12.17. Fig.24



【図25】 Fig.25 100 104 - 109 109 -G2b 109a 109a-108a 108

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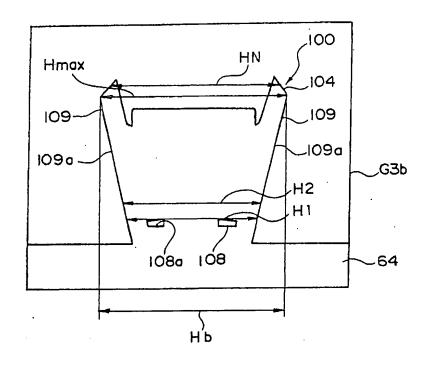
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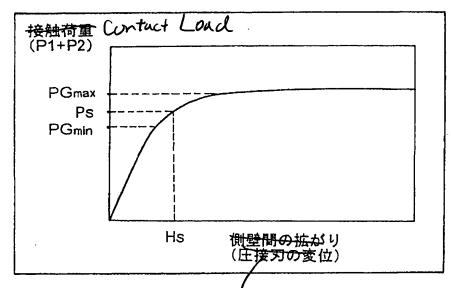
(图20) Fig.26

2002-364979 (14: 12: 17)

質名」図面



18277 Fig. 27



Expansion Amount Between Side Walls
(Displacement of Press Contact Blades)

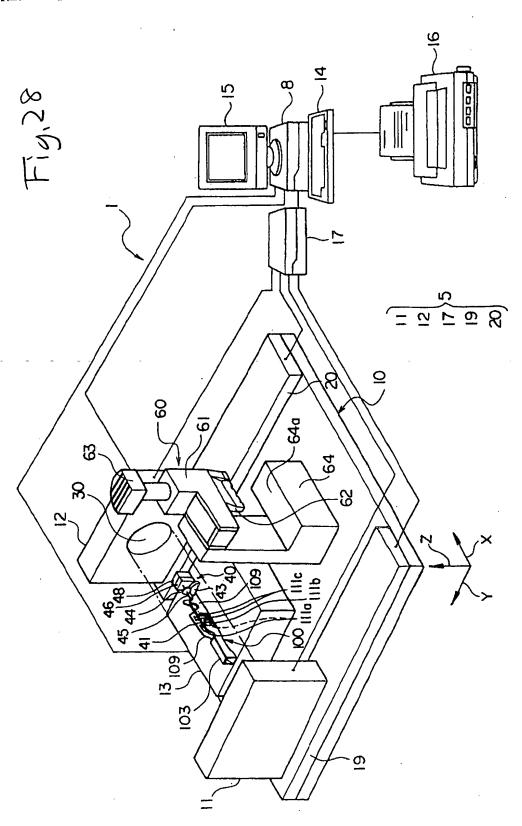
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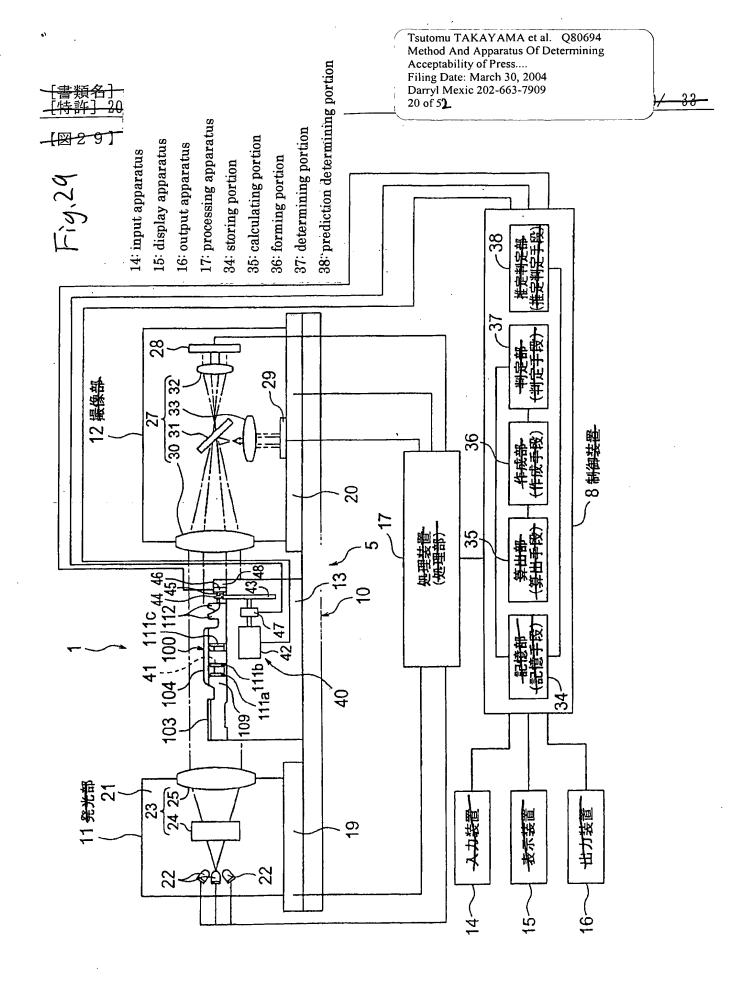
19/ -33 -

17

[图28]

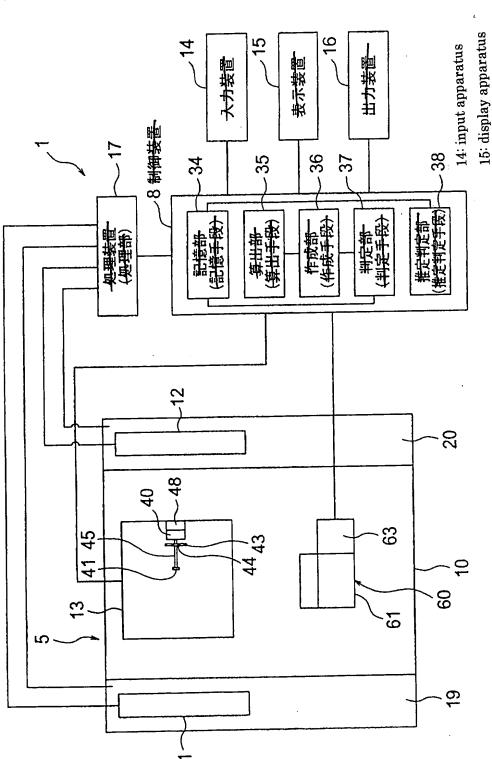
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書類名] 特許] 2]図面 2002-364979 (14.-12.-17)

【図30】



37: determining portion 35: calculating portion 36: forming portion 34: storing portion

17: processing apparatus

16: output apparatus

38: prediction determining portion

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start

~S2a

回転子を回転させて 撮像する

S

発光部の光軸と攝像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める S

2値化する

\$4

エッジを抽出する

一般は田一年本におけ

Fi4,31

をあるこ

スタート

364979 (14. 12. 17)

類名」図面

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S2a: rotate rotor and pickup image thereof S3: binarizing

S4: extract edge

, SS

側壁の外面間の距離を求め、 圧接刃の変位を測定すると ともに、接触荷置を算出する S6a

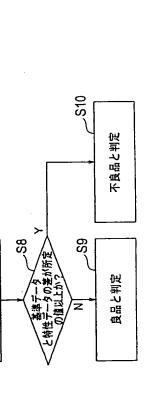
所定の 位置まで回転子が 回転したが

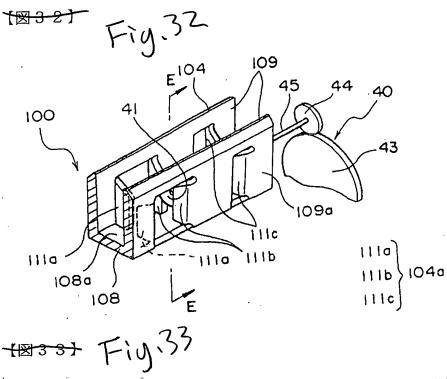
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6a: is rotor rotated by predetermined position?
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load S8: does difference between reference data and characteristic data exceed predetermined value?

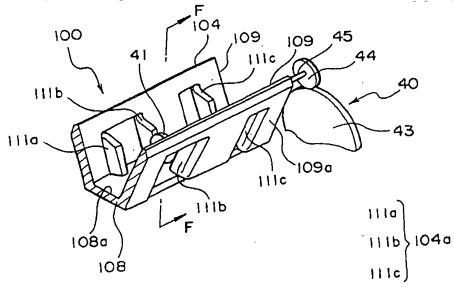
S10: defect

S7

圧接刃の変位と接触荷重 の関係を求めて特性デー タを取得(作成)する



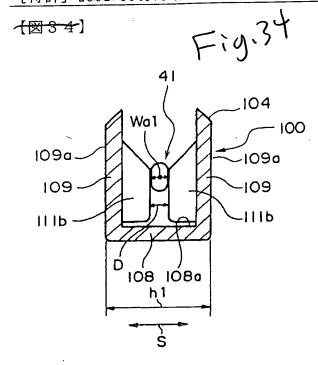


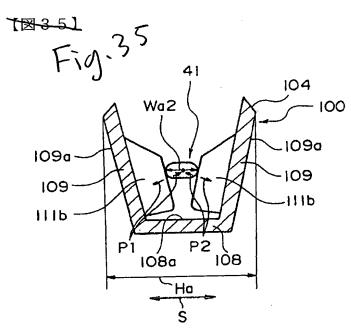


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S12: bring wire into press contact with press contact terminal S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting and pickup image thereof

S12

_S11

発光部の光軸と磁像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める

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[受仗日] 平14.12.17

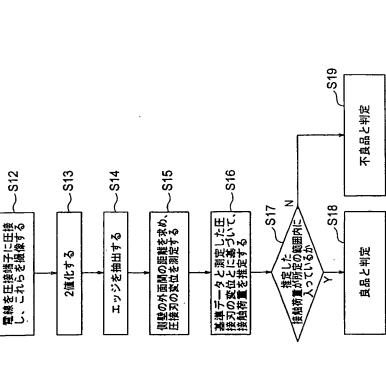
S13: binarizing

S14: extract edge

S16: predict contact load based on reference data and S17: does predicted contact load fall within predetermined S15: acquire distance between outer faces of side walls and measured displacement of press contact blades measure displacement of press contact blades

S18: good range?

S19: defect



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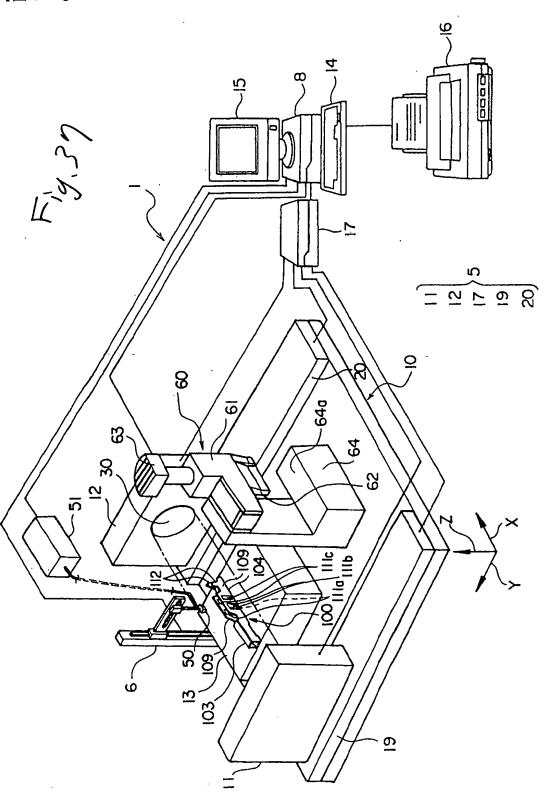
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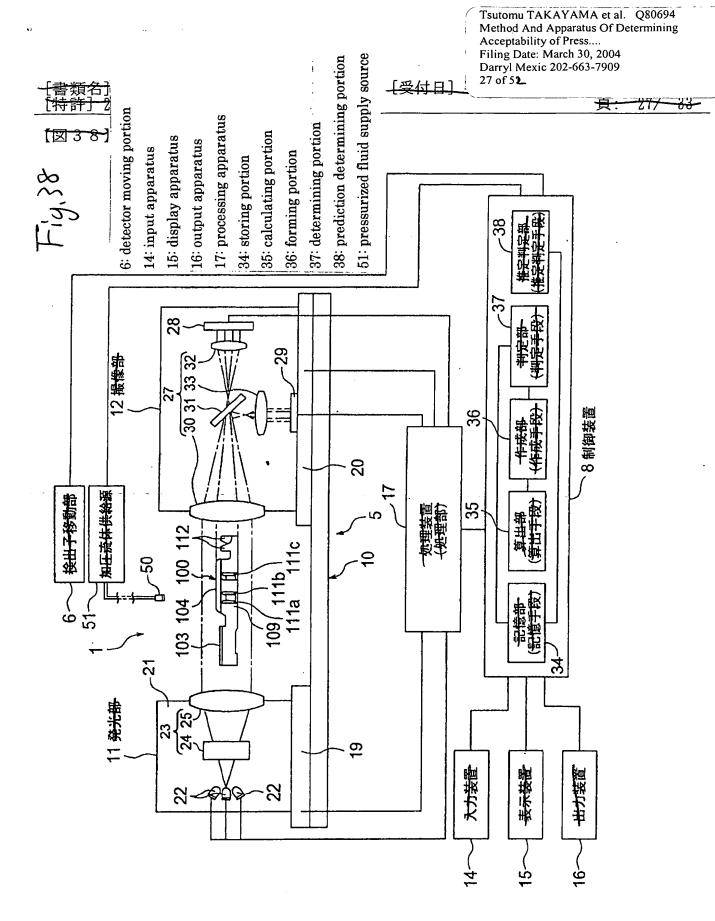
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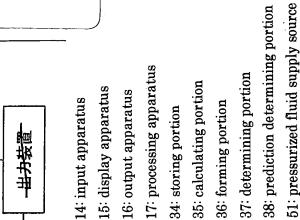
頁: 26/ 33

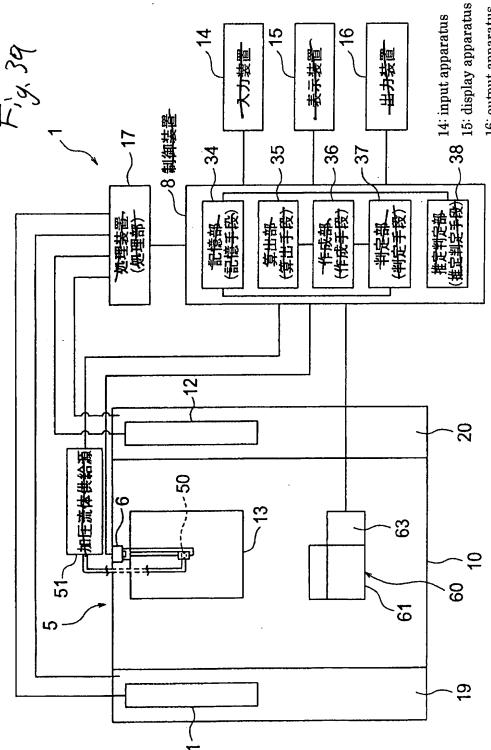
<u>., 2. 17</u>

【図37】









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start

(SHE) 单位 12.17

書類名丁図面 特許子 2002-364979 (14:12:17) Fig.40

13年8月

スタート

S

発光部の光軸と凝像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

S3: binarizing

S2b: expand expander and pickup image thereof

S4: extract edge

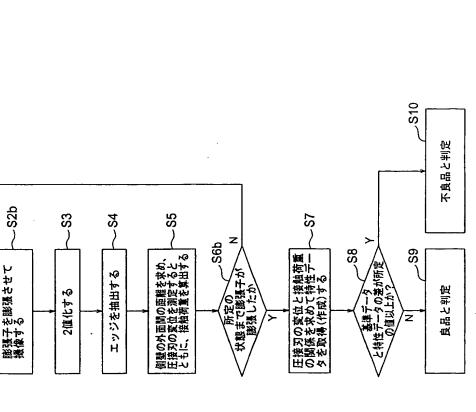
S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6b: is expander expanded in predetermined state?
S7: acquire (form) characteristic data by obtaining relationship between displacement of press contact blades and contact load

S8: does difference between reference data and characteristic

S9: good

data exceed predetermined value?

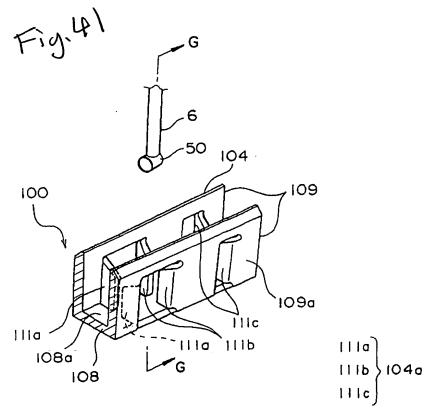
S10: defect



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12. 17)

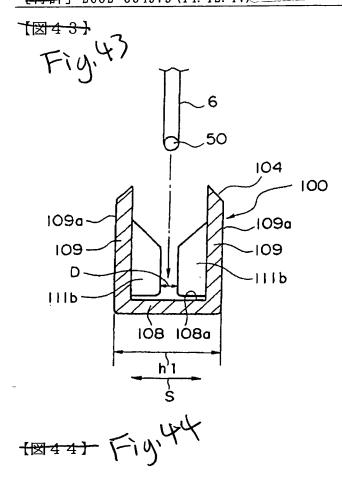
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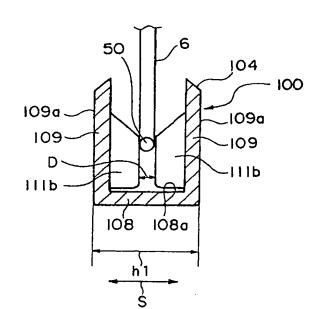


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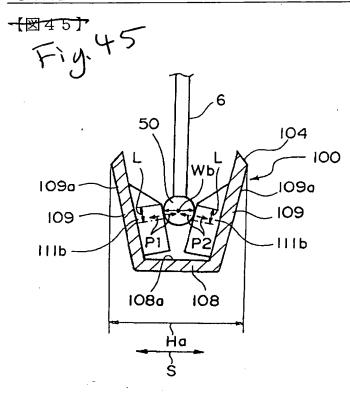
17





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S11: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting

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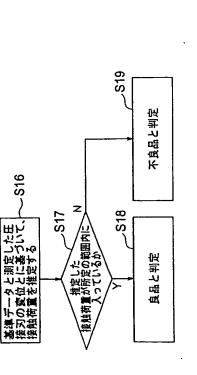
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あ46

Fig.46

スタート

S17: does predicted contact load fall within predetermined data and S15: acquire distance between outer faces of side walls and S12: bring wire into press contact with press contact terminal S16: predict contact load based on reference measured displacement of press contact blades measure displacement of press contact blades and pickup image thereof S14: extract edge S13: binarizing



S19: defect S18: good range?

\$15

側壁の外面間の距離を求め、 圧接刃の変位を測定する

-513

2値化する

.\$12

電線を圧接端子に圧接 し、これらを撮像する

511

発光部の光軸と機像部の 光軸を合わせて、圧接前 の一対の側壁の外面間の 距離を求める

S14

エッジを抽出する

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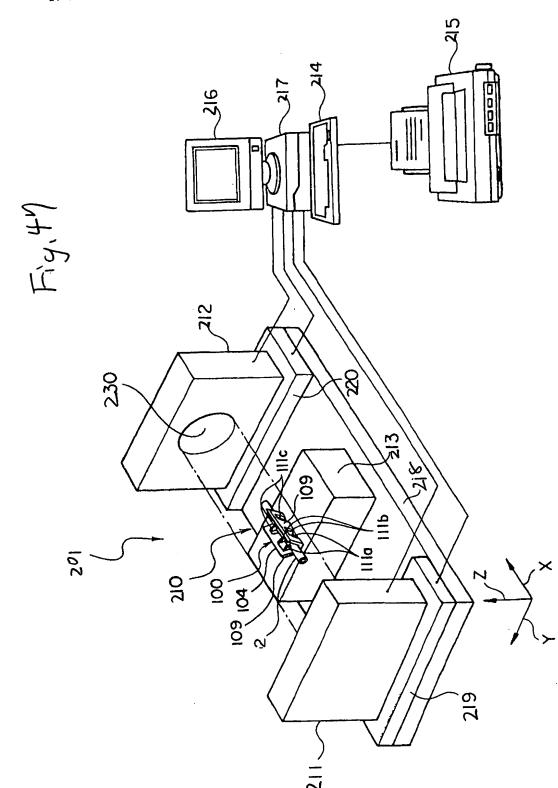
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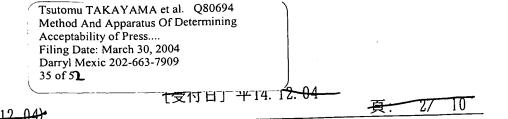
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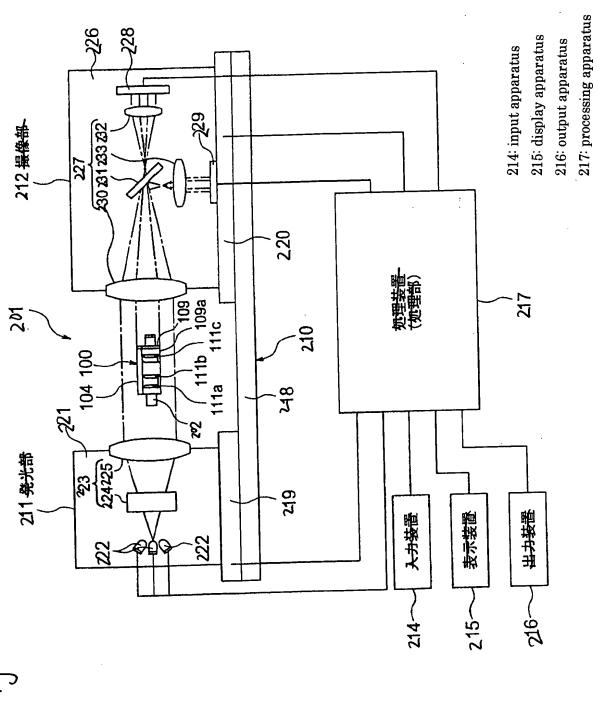
【図1】





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【図2】



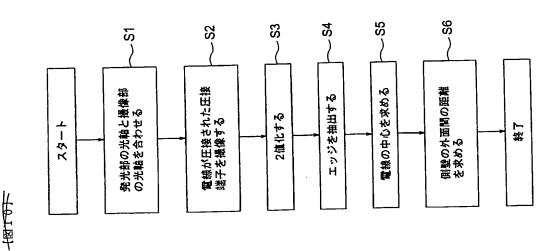
13.48 Fig.48

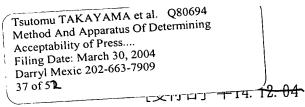
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S1: coincide optical axis of light emitting portion with optical axis of image pickup portion
S2: pickup image of press contact terminal with which wire is brought into press contact
S3: binarizing
S4: extract edge
S5: acquire center of wire
S6: acquire chier of wire

Fig.49

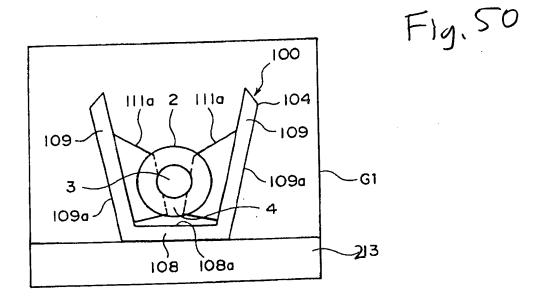
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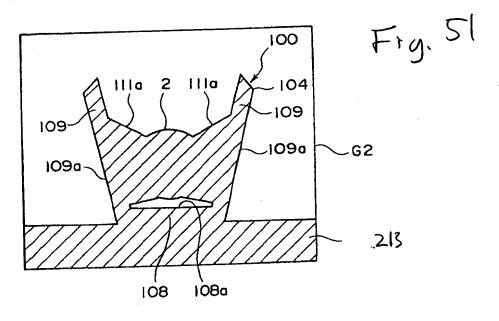


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【図11】



【図12】



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[書類名] 図面 [特許] 2002-352875 (14. 12. 04)

{図13}

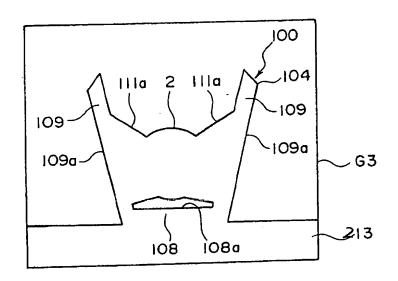


Fig.52

【図14】

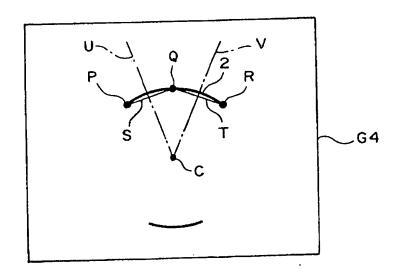
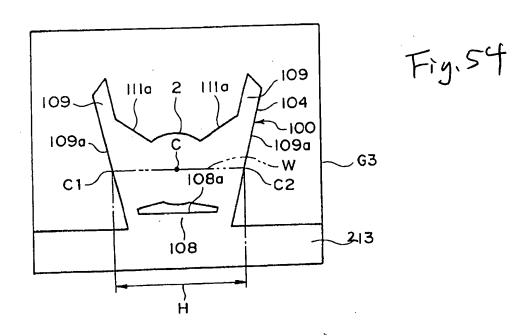


Fig.53

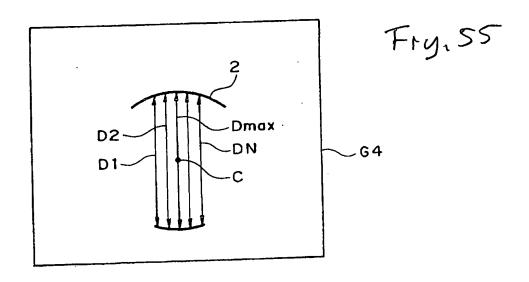
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]図面・ 2002-352875 (14.

【图15】



【図16】



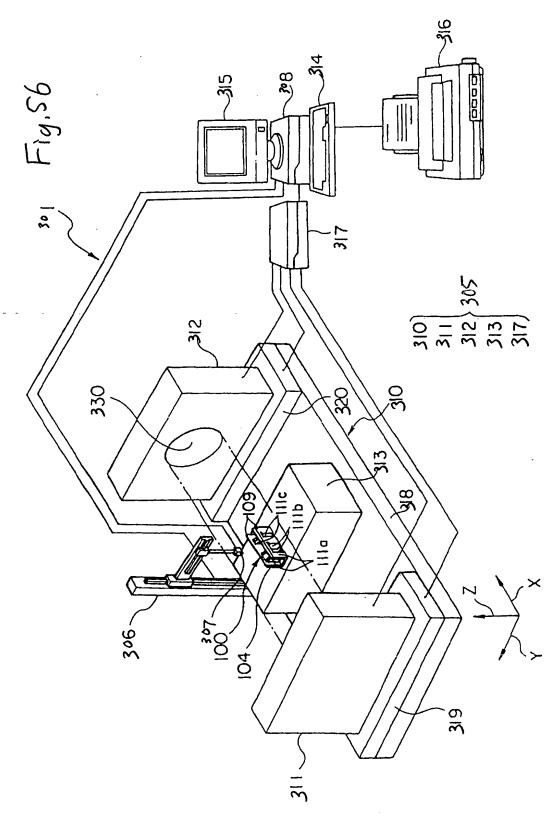
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[書類名] 図面 [特許] 2002-352873 (14. 12. 04)

【書類名】

--図面-

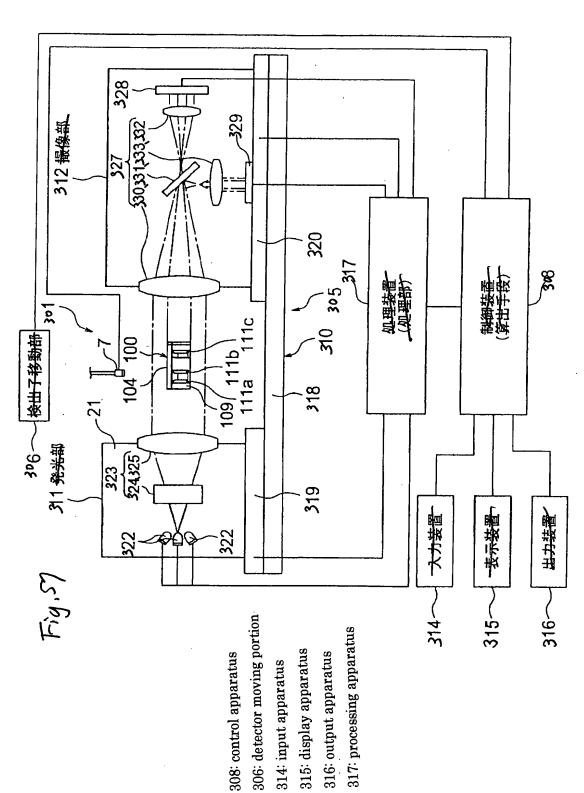
【図1】



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[書類名] 図面 [特許] 2002-352873 (14. 12. 04)

{図2}



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S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between S2: bring piezoelectric element close to press contact terminal S5: acquire distance between outer faces of side walls, measure outer faces of pair of side walls before press contacting and pickup image thereof S4: extract edge S3: binarizing

S6: is piezoelectric element inserted at predetermined position? S7: acquire relationship between displacement of press contact displacement of press contact blades and calculate contact load blades and contact load 1年十二月 start [受付日] 平14 12.04 Figis8 _ S2 . S3 1.S4 S **S**2 -S7 z 98 発光部の光軸と操像部の光軸を合わせて、圧接前の一対の倒壁の外面間の距離を決める 壁の外面間の距離を求め、 接刃の変位を測定すると もに、接触荷重を算出する 圧電素子を圧接端子に近づ け、これらを機像する 圧接刃の変位と接触荷重 の関係を求める [譽類名] | 図面 | <u>特許] 2002-352873 (14.</u> 17. 04) エッジを抽出する 所定の位置 まで圧電素子を 挿入したか 2値化する スタート 禁了 事 関田と

0.0

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【図15】 Fig. 59

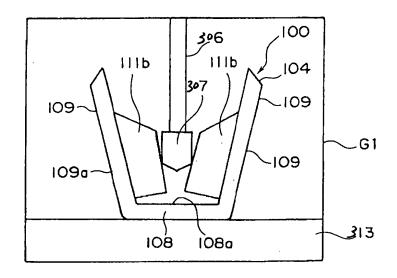
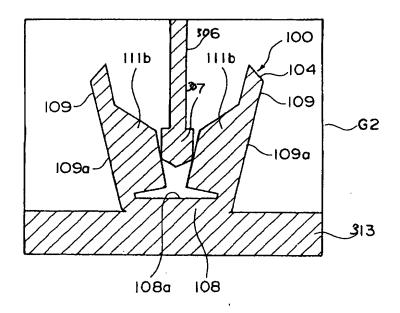


Fig.60 【図16】



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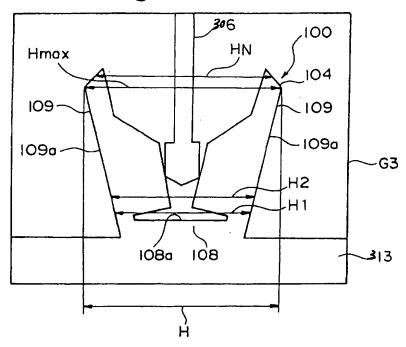
[書類名] 図面— [特許] 2002-352873 (14. 12. 04)

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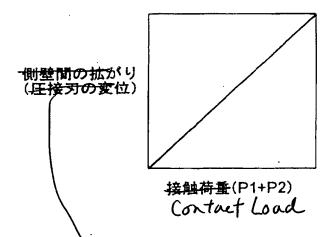
14

图 17

Fig. 61



(図18) Fig. 62



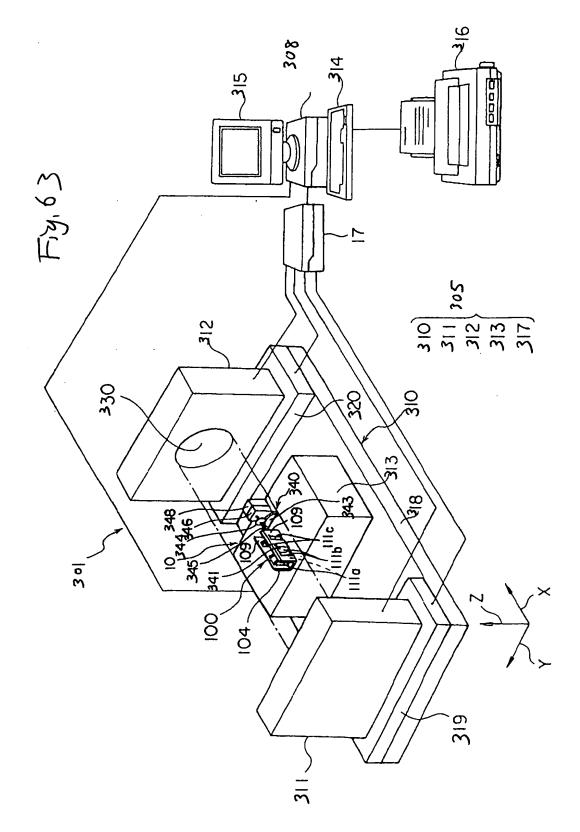
Expansion Amount Between Side Walls (Displacement of Press contact Blades)

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[書類名] 図面 [特許] 2002-352873 (14. 12. 04)

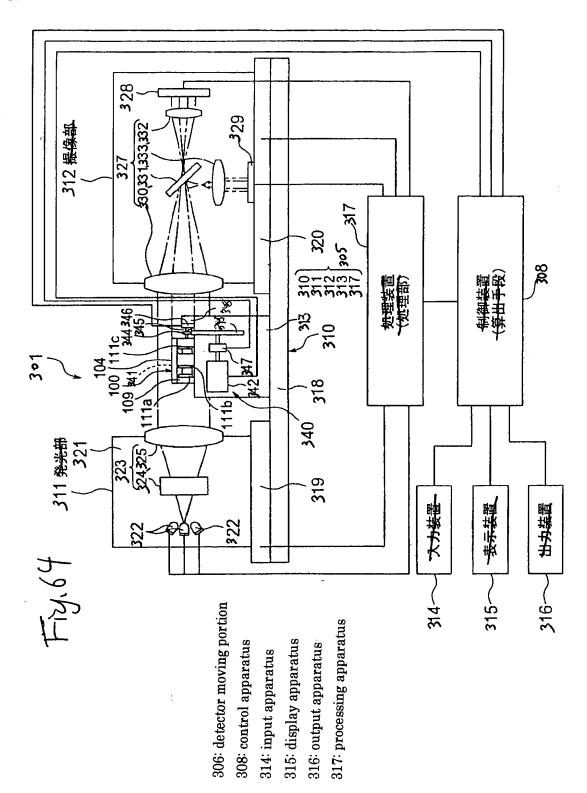
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[図1-9]



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【图 2 0 】



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start

...

S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S2a: rotate rotor and pickup image thereof

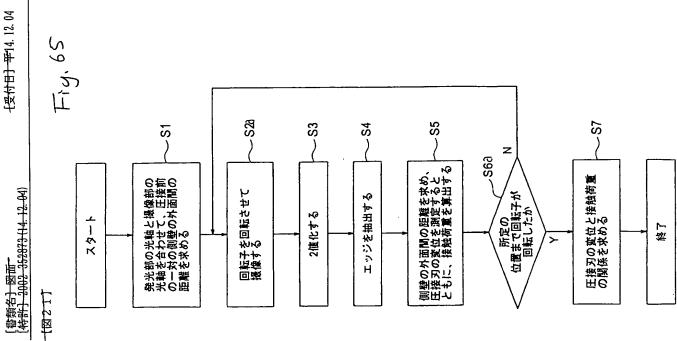
S3: binarizing

S4: extract edge

S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load

S6a: is rotor rotated by predetermined position?
S7: acquire relationship between displacement of press contact blades and contact load

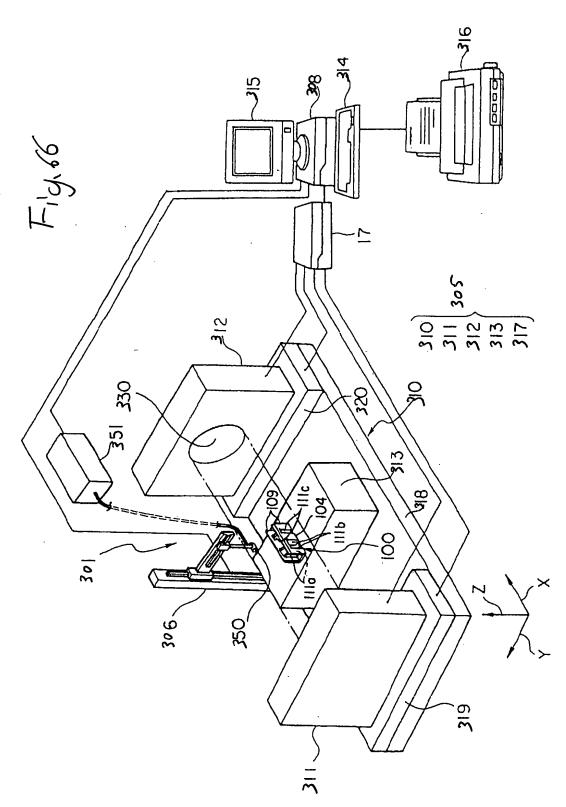
end



書類名子図面 特許] 2002-352873 (14. 12. 04)

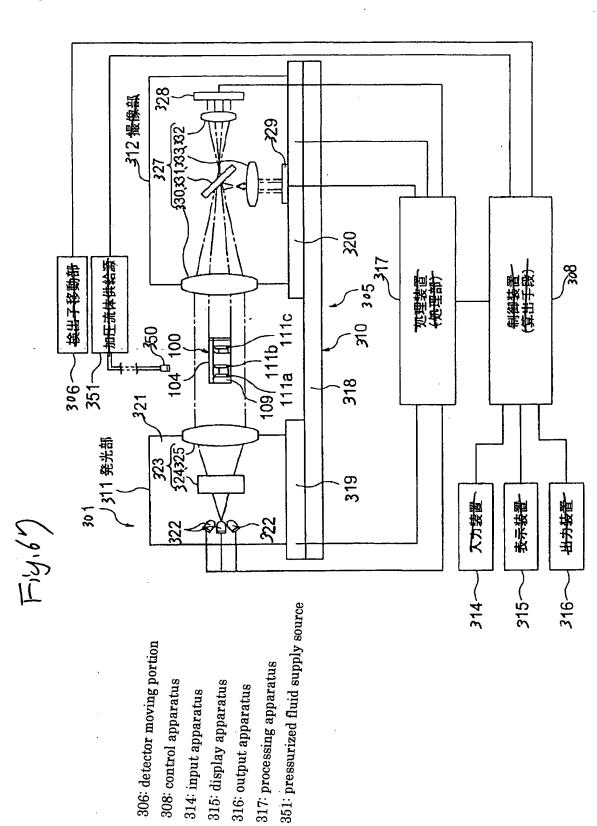
17/-23頁:

【图26】



4. 12. 04

[图27]



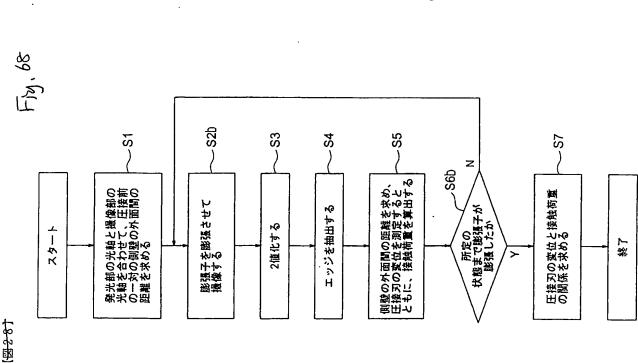
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start

[数析日] 平14 12 04

【春類名】図面 【特許】2002-352873(14-12.04) S1: coincide optical axis of light emitting portion with optical axis of image pickup portion and acquire a distance between outer faces of pair of side walls before press contacting S2b: expand expander and pickup image thereof S3: binarizing S4: extract edge S5: acquire distance between outer faces of side walls, measure displacement of press contact blades and calculate contact load S6a: is expander expanded in predetermined state? S7: acquire relationship between displacement of press contact blades and contact load

end

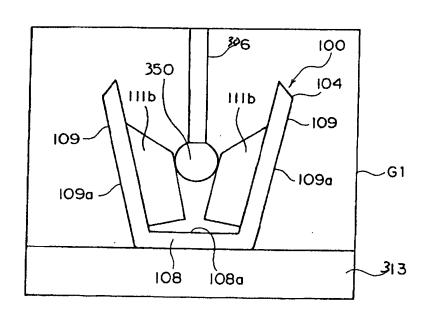


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| 4. 12. 04

Fig. 69



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